ED 423 180 THE ROLE OF HUMANITIES IN OUR MODERN TECHNOLOGICAL SOCIETY.

1 OF 1

DAVIS, GREGORY H.

96 22P.

DOCUMENT RESUME

ED 423 180 SO 028 590

AUTHOR Davis, Gregory H.
TITLE The Role of Humanities in Our Modern Technological Society.
PUB DATE 1996-00-00
NOTE 22p.; Paper presented at the Annual Meeting of the Community Colleges Humanities Association (San Francisco, CA, November 7-9, 1996).
PUB TYPE Reports - Descriptive (141) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Community Colleges; Ethical Instruction; Ethics; Futures (Of Society); Higher Education; *Humanities; Humanities Instruction; *Philosophy; Science and Society; *Technological Advancement; *Technology; Values

ABSTRACT

This paper advocates that the humanities retain a place or have primary importance in the education system. It presents a history of philosophic and religious perspectives regarding science and technology, ranging from embracing technology to rejecting it. By juxtaposing the dominance of the Nazi regime in World War II and the increasing flood of technology, the paper suggests that the humanities must temper the influence of technology on modern society. (EH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 423 180

The Role of Humanities in Our Modern Technological Society.

by Gregory H. Davis

SO 028 590

Published: 1996

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

GREGORY H. DAVIS

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

✓ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

THE ROLE OF THE HUMANITIES IN OUR MODERN, TECHNOLOGICAL SOCIETY

According to the Greek myth, Prometheus, a human, stole the secret of technology from the Gods. The head of the gods, Zeus, then made all humanity suffer for Prometheus' audacity and rebellion against the natural order of things. In one version of the myth, he sent down Pandora's Box, which, when opened, let escape all the evils of the world. Thus, suffering and unhappiness were the price humans had to pay for their theft of the god-like powers of technology.

The ancient Greeks argued that whoever possessed a techne had to be socially responsible. Both Plato and Aristotle stated that one practised a techne for the benefit of others, not for oneself. Furthermore, Aristotle, in his famous analysis of the Four Causes, argued that technology was neutral means- i.e., neither inherently good nor bad- and that it had to be oriented by values external to it. In the 1st century, A.D., Cicero the Stoic expressed the view that technology was associated with human uniqueness and was made possible by human possession of reason, hands, and an upright stance.

According to the story of Genesis in the Old Testament, technology was a result of the Fall, since it was only after Adam and Eve had sinned that God ordered him to till the soil and that

BEST COPY AVAILABLE

humans were condemned to work.

The Christian attitude toward technology, like that of the Greeks, was that it was subject to limits. In the 4th century, Nemesis of Emesa, an early Christian philosopher, stated that the mechanical arts originated in human nakedness and indigence. He warned, however, that their cultivation could undermine salvation.

In the 5th century, St. Augustine argued that the mechanical arts were only of some use, primarily to console human beings for their miserable, post-lapsarian condition. They did not serve the end of salvation, however, and thus were unrelated to any higher purpose. Some mechanical arts, like cooking, navigation, and agriculture, according to Augustine, were inherently good; others were inherently bad, such as poisons and weapons of war.

In the 12th century, Hugh of St. Victor assigned to the mechanical arts a more elevated role- that of remedying human physical weakness which resulted from the Fall. In the 13th century, St. Thomas Aquinas stated that the mechanical arts provided humans with the means to complete, or "finish," God's creation. In the same century, Roger Bacon linked technology with human destiny. He saw mechanical inventions as a way for humans to recover some of the knowledge they had lost as a result of the Fall. Paraselsus, the famous alchemist of the 16th century, saw discovery of the secrets of nature as contributing

to human recovery from the Fall and enabling humans to improve on God's creation.

In his Epistle to the Romans in the 1st century, A.D., St. Paul had urged Christians to study the Book of Nature, as a valid way to know God. This study of the Book of Nature signified science, which until the 17th century attempted to explain nature but was unable to provide and knowledge useful for the actual manipulation and control of nature. This was because science in the Middle Ages was not empirical and was subordinate to religious doctrine and authority.

Furthermore, there was a theological current in the medieval church which condemned science and associated it with the Devil and Black Magic. In the 13th century, the Franciscans actively opposed science. They attacked St. Thomas Aquinas, who represented the other, more liberal tendency. At the end of the Middle Ages, he worked out the Church's compromise with the rediscovered pagan knowledge by combining Aristotle's science with the Bible in his Scholastic philosophy. He was careful to specify, however, that all science had to be consistent with the revealed truth of the Book of Scripture.

With the culmination of the Renaissance in the 17th century, Francis Bacon called for a new science capable of application for the domination of nature. Like his predecessors Roger Bacon and Hugh of St. Victor, he associated his new science with human recovery from the Fall. His appeal for scientific knowledge which would give humans power over nature meant that henceforth,

technology would largely be the application of the laws of nature obtained from his new, experimental method in science. The modern interpenetration of science and technology had thus begun.

Bacon opposed the Scholastic philosophy of Aquinas and wanted to keep the Two Books, nature and scripture, completely separate. In order for science to yield knowledge which could be applied technologically to master nature, Bacon argued, it had to be disconnected from the stifling limitations imposed by religion and philosophy. Henceforth, the scientist would concern himself exclusively with the "how," not the "why," of the world. This was the beginning of the specialization of science and the decoupling of modern science and technology from ethics and higher philosophical principles.

In making his plea for the smashing of what he called the "Idols of the Cave," Bacon called upon scientists to leave their own values, emotions, and preconceptions out of their work. In other words, they had to be today what we call "objective." It is worth noting that Nietzsche referred to objectivity as the "inability to love," and Theodore Roszak said it meant being able to look at nature with "dead men's eyes."

Although Bacon wrote that using the new scientific knowledge to extend the power of a nation over other members of the human race would be "covetous," Bacon clearly indicated in his vision of a scientific research center, "Solomon's House," that he expected science to be developped to further the interests of the

state. Furthermore, in leaving up to the research scientists at Solomon's House which of their inventions they would keep secret, he obviously wanted the control of science to be in the hands of his state-supported and ethically disinterested scientists themselves. In the case of Bacon, it was clear that he wanted a radical disconnection of science and technology from the humanities.

René Descartes, the other master-thinker of the 17th century who laid the basis for Modernity, also wanted a new philosophical method which would yield power knowledge- i.e., as he, himself, put it, would make it possible for humans to "render themselves masters and possessors of nature." Although he advocated a new scientific method in his Discourse, in the area of morality he opted for conformism, arguing that scientists should adapt to the laws and the customs of the country where they found themselves and should mold themselves to circumstance, rather than attempt to change the world.

Blaise Pascal, who was a contemporary of Bacon and Descartes, compared the logical and abstracting mentality of the scientist, which he called the esprit géométrique, with the mind of a philosopher like Montaigne- what he called the esprit de finesse, more subtle in its judgments and able to deal with complexities and ambiguities. Pascal, who was both a philosopher and a scientist, and who had said, "the heart has its own way of reasoning," thus called attention to the difference between science and the humanities just at the point in time when the

Western world was entering into the age of modernity.

At mid-17th century, Pascal was the first european thinker to articulate the modern theory of progress, according to which human-made changes over time resulted in a process of continual, collective betterment. Fontenelle elaborated on the same theory in 1688, although he distinguished science and art, which he considered progressive disciplines, from morality, which he said was not. According to Fontenelle, progress occured in natural science due to the accumulation of knowledge over time, and in art because each generation could set higher standards than the previous one. In morality, however, he advocated a return to the past and the ideas of Epicurus and the Stoics.

In effect, Fontenelle's views contributed to the idea of a "cultural lag"- i.e., the conviction that the culture of science was the cutting edge of progress and that the culture of the humanities, or in this case at least one part of it, morality, was "lagging" behind. According to this conception, the practitioners of science- and technology- could continue without second thoughts their rapid pace of innovation. It was up to the humanities, however, to "catch up" with science rather than for scientists to submit themselves to humanistic, external values. This argument is invoked today by corporate CEOs, politicians, and scientists and engineers to provide an ideological underpinning for the idea of autonomous technology, independent of any external values.

In the 18th century, the so-called Age of Reason, the French progressist thinkers provided another rationale for the idea that science and technology could be developped and practised without regard for the wisdom of the humanistic disciplines. The German philosopher Leibnitz, who always wrote in French, was the immediate precursor for this rationale. He argued in his 1710 work, Theodicy, that every historical occurrence, no matter how evil or unfortunate it appeared to be, would ultimately turn out for the best because History was nothing more than the actualization of a divine plan.

In France, the Abbé Turgot secularized Leibnitz's theodicy and applied it to scientific innovation in his famous lectures on progress, delivered at the Sorbonne at mid-century. There should be absolute freedom for all scientific innovation, he stated, because each new discovery, despite apparent risks or dangers, would ultimately benefit the human race. Thus, not only according to Bacon should the scientist suppress his emotions and eliminate religious and philosophical concerns in his investigation of the nature, but in Turgot's view the product of his efforts would inevitablely serve to further the good of humanity.

The reason that a good result was guaranteed, according to Turgot, was not divine will, but the use of mathematics, which was a precise and universal language of pure reason which cut across all cultural barriers. Even moral questions, he said, would be solved by equations and thus put beyond the disputes of the marketplace. Eventually, reason would fully crowd out emo-

tion in the human character, and then ignorance, prejudice, fanaticism, and superstition would be eliminated. Turgot admitted, however, that the pace of change had become so rapid that humans were confused.

The Abbé de St. Pierre, proposed creating moral and political academies to eliminate the lag between science and the humanities. Condorcet, another 18th century progressist thinker, also wanted to apply the methods of science to the humanities, thus dissolving the difference between the two disciplines. He called for a social mathematics based on a calculation of probabilities, although he admitted it would be difficult to reach the level of certainty of the physical sciences. Progress in the social sciences, therefore, would be slower. In England, the utilitarian philosopher, Jeremy Bentham, who was a contemporary of Condorcet, attempted to provide the basis for the quantification of morality by means of a cost-benefit calculus.

The most important 18th-century dissenter to the theory of progress was Jean-Jacques Rousseau, who argued at mid-century that advances in science and the mechanical and fine arts had only served to render humans lazy, unhappy, and morally corrupt. According to Rousseau, humans in their natural state had been good. In a historical sense, it was the invention of the technologies of mining and agriculture, as well as the institution of private property, which triggered the events leading to unhappiness. The solution was neither in science nor

the humanities, according to Rousseau, but in a return to the simple life, close to nature.

Condorcet believed human nature could be perfected by means of education and reform laws. Helvétius, another 18th-century philosophe, also believed that human nature was malleable and could be educated to almost anything. These views left an opening for the humanities, but they also had an authoritarian potential for social engineering by means of social science. Social scientists often quantify human behavior and seek to provide techniques for manipulation and control of human beings, whereas humanists seek a qualitative dimension in human experience which recognizes uniqueness, complexity, and ambiguity. They are committed to the ideal of autonomous individuals making their own judgments in a world where certainty is elusive.

In the 19th century, the most important inheritor of the theories of the progressists was Karl Marx, who believed that material progress, ultimately dependent on science and technolology, would guarantee social progress. At each developmental stage in history, Marx stated that human consciousness and intellectual culture depended on material factors. The humanities, therefore, were of secondary importance, and technology and economics were of primary importance.

In Marx's view, political revolution was often necessary to move humanity forward to a more advanced stage of development, and a correct understanding of history would facilitate this task by enabling the oppressed social class to understand better its

role. Marx believed, like Leibnitz and St. Augustine, that history had a direction and a goal. It was governed by laws, however, not by God; and these laws could be scientifically determined, by means of what he called dialectic materialism.

Although Marx's philosophy had an important humanistic dimension as revealed by his theory of alienation, it was science and its methods, not the humanities, which played the essential role. He did not believe that there were any contradictions in modern technology itself. He basically ignored the problem of pollution and attributed all dehumanizing effects of technology to the capitalist system rather than to technology. In other words, if technology were properly oriented in a communistic system, utopia would be possible. In a communist society, Marx and Engels, his collaborator, said, human aggressiveness and "the furies of private interest" would disappear. Humans would be able to pursue their all-around development.

There were other thinkers in the 19th century who did not share Marx's optimism about science and technology. Goethe, who was a great humanist, had his reservations about an increasingly scientizing culture. The protagonist of his Wilhelm Meister's Wanderjahre (1829) looked through a telescope and commented on the discrepancy between the increasing level of human knowledge of external nature provided by technology and the limited capabilty of one's inner level of discernment. In his Epochs of the Spirit (1817), Goethe warned of a coming "prosaic age" and saw a

world impoverished by scientific abstraction and preoccupied with utility as boring and without meaning.

Nietzsche had a similar view. Writing toward the end of the 19th century, he praised the emancipation of science from moral and religious purposes as a "very good sign" on the grounds that it was an indication of the nihilism which had become manifest in european civilization. Nihilism, he said in The Gay Science (1882), involved the "death of God" and the attendant collapse of all higher values. There was no longer any "up" or "down," and all natural limits were gone. Most members of european society, Nietzsche said, belonged to the "herd" and were still living according to dead ideas which deep down they knew were false. Neitzsche saw this nihilism, however, as liberating humans from their sick culture of the past. It presented the opportunity for the emergence of a new aristocracy- that of the Overman- and for the creation of new values.

On the other hand, Nietzsche said, science was ultimately based on fear- of wild animals, and of the "animal within humans themselves." Objectivity, he said, was the inability to love; and existence in a mechanized world would be meaningless. "Science and the herd," he said in The Will to Power, "make common cause." According to Nietzsche, science and technology belonged to the false realm of Zivilisation, which derived from the values of Rousseau, the French Revolution, and the 18th century and included the ideals of progress, equality, pity, democracy, etc. To these so-called "herd values," Nietzsche

opposed Kultur, which represented a will-to-power and truth. The new values of Nietzsche's Overman presumably would reject the repressive morality of Christian civilization and incorporate a new humanism which would permit humans to act authentically in terms of what they really were.

After the experience of World War I, which they said revealed the connection of technology with German soul and technology's autonomous and "faustian" character, 20th-century Reactionary Modernist philosophers in Germany like Oswald Spengler and Ernst Juenger transferred technology from the false realm of Zivilisation to the authentic realm of Kultur. This was a key part of their solution to the crisis in Europe. They thus prepared the way for Hitler and the National Socialists, who glorified technology as the means for implementing total domination in a totalitarian state. Some of the most rich and interesting analyses of the dangers and contradictions of technology in the 20th century have come from Reactionary Modernists and National Socialists, but ironically, these thinkers opted for more technology rather than less, identifying it with the German nation and a will-to-power.

In two works written prior to World War I, Werner Sombart, a Reactionary Modernist thinker who incorporated racist doctrine in his analysis, blamed capitalism and the Jews for the perversion of technology. It could only be restored to its true potential, he argued, by incorporating it into an authoritarian state.

Spengler warned in his Decline of the West (1918) of the "devlish nature of the machine" and of the "enslavement of humans by their own technological creations." He linked technology, however, with German nationalism, and said it was up to the engineer to take the lead and integrate technology into a new culture. He anticipated Nazism with his desire to combine German nationalism with a socialist program for technological advancement. In Man and Technics (1931), Spengler said that technology embodied a will-to-power which made it possible for humans to free themselves of their limits. Despite the dangers, Spengler concluded that humans should "surrender heroically to technology, to fate."

In his Time and Being (1927), Martin Heidegger, who shared some but not all of the Reactionary Modernists' views and concerns, warned that two thousand years of technological development had led to a "forgetting of Being." Technology, he said, had emerged as more than the neutral means which Aristotle had described it as being and had become an autonomous force which menaced the individual. When the National Socialists came to power, Heidegger expressed the hope that they would provoke a crisis so that the forgetting of Being would be overcome.

Hitler and his National Socialists found enthusiastic support among engineers. They not only hoped for jobs in the weapons industry, but they acquiesced in the Nazi ideology which linked technology to German soul and assigned it a key role in solving Germany's problems. Significantly, Hitler appointed an

architectural engineer, Albert Speer, as his chief advisor.

Heidegger soon abandoned his optimism about National Socialism, however, and came to see it as perverted by technology. After the war, in his famous essay of 1953, The Question Concerning Technology, Heidegger pointed out that technology was ambiguous in its essense, letting humans endure but blocking a revealing of Being. To resolve this crisis, he promoted a special role for art as a superior way of revealing Being. He thus made an appeal to the Humnanities in a time of great need.

Perhaps the most telling philosophical response to the glorification of technology by the Reactionary Modernists and National Socialists in Germany, however, was that of the famous Spanish philosopher, Ortega y Gasset. He had had moved to Argentina when General Franco and the Fascists came to power in Spain. In a series of lectures on technology given in Buenos Aires in 1935, Ortega made a brilliant defense for the humanities vis-a-vis technology, one which we cannot ignore today.

According to Ortega, it was technology which made it possible for humans to acquire enough freedom from nature so they could lead a human, and not just a biological life. "Man begins," Ortega said, "where technology begins." The engineer, he added, was in charge of the technological projects which made human freedom possible. The problem was what to do with this freedom, and this was a matter concerning what Ortega called

"vital projects."

Humans, in effect, had to create their own being. This was an enterprise which involved such human concerns as art, politics, morality, and spiritual experience. It drew upon what Ortega called an imagining and wishing faculty, which tended to atrophy precisely as technology developped and expanded. The engineer was not capable of providing the proper guidance for these; it was rather up to, rather, poets, philosophers, mystics, and politicians. Therefore, Ortega said in obvious response to the Germans, "The engineer cannot rule."

The present crisis in European culture, Ortega concluded, was not due to a lack of technology but, rather, to an inability to find meaning for existence no longer bounded by the limits of nature. Furthermore, Ortega said humans in the modern world had become "denaturalized" because of the advanced level of technology and were living in an increasingly artificial world. He saw a danger that they would lose the awareness of how difficult it had been to arrive at such a point of technological mastery and would become too dependent upon it.

Ortega's words, written over half a century ago, clearly are more relevant today than ever. The character of modern technology and the civilization which is based upon it are such that humans, indeed, have been brought to a critical juncture in history.

As Heidegger stated, the Aristotelian conception of technology as neutral means is passe: technology has replaced

nature and now constitutes, as Ortega reiterated, the very material infrastructure of our lives. Furthermore, the power and scope of modern technology is much more extensive than in the past. Jacques Ellul has advanced the view that technology is now morally ambiguous- i.e., both good and bad at the same time, providing the means to solve problems but at the same time unwittingly creating other new problems, often worse than the original ones the technologies were intended to address.

According to Karl Marx, technological changes automatically bring social, cultural, and political changes. Langdon Winner, a contemporary American writer, has emphasized this broader impact of specific technological innovations by calling them "social forms." The automobile, for example, brought with it a whole new way of life, affecting the economy, leisure, courtship, air quality, living patterns, health, daily rhythms and the use of time , etc. The same is true of television. Marshall McCluhan in the 1960's called attention to the fact that the social effects of communications technologies transcend the uses for which they are created with his dictum, "the medium (i.e., the technology itself) is the message."

Barry Commoner, the ecologist, has pointed out that side effects like pollution of technological operations are due to the fact that technology involves one-shot, linear interventions in complex natural systems where all elements are interconnected and their processes are designed to repeat themselves indefinitely.

The humans who engage in these operations, however, do not take into account the fact that their reductionist technological methodology is bound to cause these side effects. Because these broader sociological and ecological impacts invariably occur and often are not even forseeable, modern technology is difficult to control.

Bacon had referred in the 17th century to a linkage factor in scientific innovation, according to which each new discovery would lead to another. This process, of course, renders the global effects of scientific progress unforseeable. Jacques Ellul has referred to a similar phenomenon in technology as "self-augmentation," according to which innovations link up with others to create new possibilities of which no one had even dreamed previously, and with the whole process continuing automatically and indefinitely. Thus, paradoxially, technology, which is a human activity, does not have any pre-set goal and escapes human control.

At the same time that technology has reached this point, its interventions into nature are increasingly radical, and its potential for human dehumanization and domination increase. Human technology can now create new forms of life in a test tube, probe billions of miles into outer space, release the energy of an atom, produce an electronic machine which can do billions of calculations in a second, substitute artifical technological processes for human thinking and sensory perceptions, program the feelings and behavior of millions of viewers of electronic media,

provide the means to pollute globally the earth's atmosphere, and wipe out massively non-human living species. We have reached a point of extreme danger, where we could lose our sense of what it means to be human and of what nature is; and we could destroy the basis of life, itself, nature.

The individuals who invent and develop these technologies, however, are ill-prepared to face the challenge presented by such a radical multiplication of their power and scope. Today's scientists and engineers, the direct descendants of Bacon, are, regrettably, more over-specialized and one-dimensional than ever. They are moral conformists of the type Descartes called for in his Discourse, unwilling and unable to assume their obligations of social and ecological responsibility. Graduates of science and engineering programs in our colleges and universities, they have obtained their degrees with a minimum of meaningful exposure to art, literature, philosophy, and history- i.e., to the humanities. Essentially, they have been trained, rather than educated. And most of them either work for business corporations guided by the philosophy of the bottom line or for defense contractors serving the power interests of the state. This means that even if they did want to bring the concerns of the humanities to their work as scientists and engineers, they most likely would have to struggle to do so.

Given this situation, the questions from Paul Gaughin's famous south-seas painting, "Who are we? Where do we come from?

Where are we going?," have become more essential than ever. The humanities may not be able to give a definitive answer to them, but at least the humanities' vocation is to try to answer them. Not all our dreams can be materialized; and as Ortega said, humans need the imaginary, the spiritual, and the beautiful in order to find meaning in life. Modern science deals with the quantifiable and the repeatable, for the purpose of manipulation and control. The humanities deal with phenomena which are ambiguous, complex, and unique, escaping prediction and control. They deal with love, which science and technology have banished, in conformity with Bacon's requirement of objectivity and goal of domination. They are needed to counter-balance, question, and criticise technology, to preserve the idea of a richer existence which is not essentially based on technology.

If we live in a world based on technological control and artificiality, it will, as Nietzsche and Goethe warned, be a world empty of meaning, a world of nihilism. Ultimately, it could end in technofascism. The computer nerds and the biotechnicians will be the new masters of the universe, but they cannot be its legitimate leaders. Technology can only affirm human power over other humans and over nature itself. The real questions, however, are why do we want this power, do we really need it, for what purposes do we want to exercise it, and will it make us happy?

In the face of Nazi domination during World War II, Albert Camus wrote an essay titled, "The exile of Helen." The National

Socialists, armed for total domination of humans and nature with state-of-the-art technology had, indeed, exiled from their world beauty and love, represented for Camus by Helen of Troy. Confronted with a society which is ever-more technological, we must insist that the humanities retain a place of primary importance in our education system. If the humanities, like Helen, are exiled from our curricula, we will lose the sense of what it is to be human and lose our direction in a world which we are increasingly dehumanizing and destroying with our technology.

copyright, 1996, by Gregory Davis